UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,275	07/31/2001	Arthur Papier	AP-1	4087

37211 7590 11/03/2004		EXAMINER
BASCH & NICKERSON LLP		HAYES, JOHN W
1777 PENFIELD ROAD		
PENFIELD, NY 14526	ART UNIT	PAPER NUMBER
	3621	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/919,275	PAPIER ET AL.
	Examiner	Art Unit
	John W Hayes	3621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24 and 28* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24 and 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *1/02, 2/02*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   Applicant's election with traverse of Group II, claims 5-24 and 28 in the response filed 13 October

2004 is acknowledged. Applicant has amended claims 5 and 28 to include the knowledgebase,

consistent with claim 1, therefore, examiner agrees to include claims 1-4 in the group of claims to be

examined. Thus, claims 1-24 and 28 are examined below.

2.   Claims 25-27 and 29-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as

being drawn to a nonelected invention, there being no allowable generic or linking claim.

3.   Applicant is reminded that upon the cancellation of claims to a non-elected invention, the

inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named

inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of

inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37

CFR 1.17(i).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections

set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-24 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk, U.S.

Patent No. 5,437,278 in view of Bodick et al, U.S. Patent No. 4,945,476.

As per **Claim 1**, Wilk discloses a system to aid in a visual diagnostic process, comprising:

- an image database (Col. 1, lines 55-62; Col. 2, lines 46-56; Col. 6, lines 15-26);

- a knowledge database, cross-referenced to said image database, for the purpose of assisting in the diagnostic process (Col. 1, lines 55-58; Col. 2, lines 25-32; Col. 4, lines 55-60);

- a user-interface to solicit, from a user, a plurality of descriptive characteristics of a sample requiring diagnoses (Col. 4, lines 48-54; Col. 7, lines 3-8);

- a diagnostic engine, responsive to said characteristics, wherein said characteristics of the sample are employed by said engine to identify, from a plurality of possible diagnoses, a diagnosis that is consistent with the characteristics (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4 line 65-Col. 5 line 3); and

Wilk, however, fails to disclose identifying a subset of diagnoses and using the subset of diagnoses to reorganize an information space of said image database for concurrent presentation of a plurality of images for user review via the user-Interface. Bodick et al disclose a computerized aid to the process of medical diagnosis and teach a diagnostic engine that returns a subset of diagnoses responsive to characteristics entered by a user (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-57; Col. 12 line 64-Col. 13 line 11; Col. 20, lines 15-38; Col. 24, lines 28-48). Bodick et al further disclose reorganizing an information space for concurrent presentation of a plurality of images or user review (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-48; Col. 6, lines 15-22; Col. 20, lines 15-38). Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the system of Wilk and incorporate the ability to identify a subset of possible diagnoses based on a sample of characteristics and further to display the images or other data related to the subset of diagnoses as taught by Bodick et al. Bodick et al provides motivation by indicating that these features would benefit doctors or physicians by assisting them in searching information that would help them in diagnosing a medical condition (Col. 1, lines 10-16; Col. 2, lines 1-8).

As per **Claim 2**, Wilk fails to disclose a dynamic diagnostic engine to reorganize the information space upon modification of one of a plurality of descriptive characteristics. Bodick et al disclose a dynamic diagnostic engine to reorganize the information space upon modification of a descriptive characteristic (Col. 2, lines 50-62; Col. 5, lines 50-57; Col. 20, lines 15-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the system of Wilk and include

a dynamic diagnostic engine such as that described by Bodick et al in order to assist the doctor in

diagnosing a particular medical condition and allow the doctor to dynamically modify a characteristic in an

effort to view all proposed diagnoses that may be related.

As per **Claim 3**, Wilk discloses a method for aiding a visual diagnostic process, including the

steps of

    - creating an image database from a collection of images pertaining to a particular subject matter

(Col. 1, lines 55-62; Col. 2, lines 46-56; Col. 6, lines 15-26);

    - creating a knowledge database with other data related to the particular subject matter, wherein

said knowledge database is cross-referenced to said image database, for the purpose of assisting in the

diagnostic process (Col. 1, lines 55-58; Col. 2, lines 25-32; Col. 4, lines 55-60);

    - collecting from a user, through a user-interface adapted to the particular subject matter, a

plurality of descriptive characteristics of a sample requiring diagnoses (Col. 4, lines 48-54; Col. 7, lines 3-

8);

    - in response to said descriptive characteristics, identifying, from a plurality of possible diagnoses

included within the knowledge database, a diagnosis consistent with the descriptive characteristics

collected from the user (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4 line 65-Col. 5 line 3).

Wilk, however, fails to disclose identifying a subset of diagnoses and using the subset of

diagnoses to reorganize an information space of said image database for concurrent presentation of a

plurality of images for user review via the user-Interface. Bodick et al disclose a computerized aid to the

process of medical diagnosis and teach a diagnostic engine that returns a subset of diagnoses

responsive to characteristics entered by a user (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-

57; Col. 12 line 64-Col. 13 line 11; Col. 20, lines 15-38; Col. 24, lines 28-48). Bodick et al further disclose

reorganizing an information space for concurrent presentation of a plurality of images or user review (Col.

2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-48; Col. 6, lines 15-22; Col. 20, lines 15-38). Thus, it

would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the

system of Wilk and incorporate the ability to identify a subset of possible diagnoses based on a sample of

characteristics and further to display the images or other data related to the subset of diagnoses as

taught by Bodick et al. Bodick et al provides motivation by indicating that these features would benefit

doctors or physicians by assisting them in searching information that would help them in diagnosing a

medical condition (Col. 1, lines 10-16; Col. 2, lines 1-8).

As per **Claim 4**, Wilk fails to disclose a dynamic diagnostic engine to reorganize the information

space upon modification of one of a plurality of descriptive characteristics. Bodick et al disclose a

dynamic diagnostic engine to reorganize the information space upon modification of a descriptive

characteristic (Col. 2, lines 50-62; Col. 5, lines 50-57; Col. 20, lines 15-39). It would have been obvious to

one of ordinary skill in the art at the time of applicant's invention to modify the system of Wilk and include

a dynamic diagnostic engine such as that described by Bodick et al in order to assist the doctor in

diagnosing a particular medical condition and allow the doctor to dynamically modify a characteristic in an

effort to view all proposed diagnoses that may be related.

As per **Claims 5 and 24**, Wilk discloses a system for reducing diagnostic uncertainty using cross-

referenced knowledge and image databases, comprising:

    - a user-interface to solicit a plurality of characteristics of diagnoses from a user (Col. 4, lines 48-

54; Col. 7, lines 3-8);

    - a diagnostic engine, wherein said characteristics of diagnoses are employed to identify, from a

plurality of possible diagnoses for which data is stored in the knowledgebase, a diagnosis from the

knowledgebase that is consistent with the characteristics (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4

line 65-Col. 5 line 3).

Wilk, however, fails to disclose identifying a subset of diagnoses and using the subset of

diagnoses to reorganize an information space of said image database for concurrent presentation of a

plurality of images for user review via the user-Interface. Bodick et al disclose a computerized aid to the

process of medical diagnosis and teach a diagnostic engine that returns a subset of diagnoses

responsive to characteristics entered by a user (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-

57; Col. 12 line 64-Col. 13 line 11; Col. 20, lines 15-38; Col. 24, lines 28-48). Bodick et al further disclose

reorganizing an information space for concurrent presentation of a plurality of images or user review (Col.

2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-48; Col. 6, lines 15-22; Col. 20, lines 15-38). Thus, it

would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the

system of Wilk and incorporate the ability to identify a subset of possible diagnoses based on a sample of

characteristics and further to display the images or other data related to the subset of diagnoses as

taught by Bodick et al. Bodick et al provides motivation by indicating that these features would benefit

doctors or physicians by assisting them in searching information that would help them in diagnosing a

medical condition (Col. 1, lines 10-16; Col. 2, lines 1-8).

As per **Claims 6-11**, Wilt fails to disclose a diagnostic image stack comprising a subset of a

plurality of images, each image being associated with a common diagnosis, wherein each image is

displayed to depict stages of a disease progression or a plurality of images associated with a particular

diagnosis or wherein an image presented to the user includes a display of associated characteristics of

diagnoses when a user selects a portion of an image being displayed. Bodick et al disclose a diagnostic

image stack (Figure 26) comprising a subset of a plurality of images, each image being associated with a

common diagnosis and an index into the subset of images wherein the index is independent of the

common diagnosis including a display of associated characteristics of diagnoses when a user selects a

portion of an image (Figure 26; Col. 2, lines 30-45; Col. 5, lines 40-48; Col. 6, lines 34-46; Col. 20, lines

15-39). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to

modify the system of Wilk and include the above features as taught by Bodick et al in an effort to facilitate

the physicians diagnosis of a medical condition by presenting an easily understandable means for

enabling the physician to browse different images associated with a particular diagnosis. Bodick et al

further discloses a plurality of images associated with a particular diagnosis, however, fail to further

disclose images depicting disease progression. Examiner submits, however, that this would have been

obvious in view of the teachings of Bodick et al in an effort to offer a plurality of images to the physician in

order to determine the nature of the particular disease associated with the current patient.

As per **Claim 12**, Wilk further discloses wherein the diagnostic engine uses the characteristics of diagnoses to perform a pattern recognition operation on the knowledge database and to Identify diagnoses with matching characteristics (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4 line 65-Col. 5 line 3).

As per **Claims 13-14**, Wilk further discloses wherein the system is applicable to and includes characteristics of diseases that have a dermatological manifestation or visible to the unaided human eye (Col. 2, lines 35-45).

As per **Claim 15,** Wilk further disclose wherein the system for reducing diagnostic uncertainty is applicable to and includes characteristics of diseases that are determined based upon a finding determined by mechanical examination means (Figure 1; Col. 2, lines 10-16).

As per **Claims 16-18 and 20-21**, Wilk and Bodick et al fail to disclose wherein the user interface to solicit a plurality of characteristics includes at least one symptom represented as an icon. Examiner takes Official Notice, however, that representing items with an icon in a user interface is well known in the art and it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to use icons as a matter of convenience for the user.

As per **Claims 19 and 22-23**, Wilk and Bodick et al fail to specifically disclose wherein the system for reducing diagnostic uncertainty is applicable to and includes characteristics of oral medications. Bodick et al, however, disclose that it will be apparent that the presentation of pictorial images in conjunction with textual data which relate to those images and assist in the evaluation of them is valuable in any area where the appearance of an object under study/examination is of critical importance. Thus, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to modify the system of Wilk and utilize the invention for any purpose as suggested by Bodick et al for the cognitive process of diagnosis.

As per **Claim 28**, Wilk discloses a system to aid in a visual diagnostic process, comprising:

- a user-interface to solicit a plurality of descriptive characteristics of a sample requiring

diagnoses such as modality (Col. 4, lines 48-54; Col. 7, lines 3-8);

- a diagnostic engine, wherein said characteristics of the sample are employed by said engine to

identify, from a plurality of possible diagnoses for which data is stored in a knowledgebase, a diagnosis

that is consistent with the characteristics (Col. 1, lines 59-62; Col. 2, lines 27-33; Col. 4 line 65-Col. 5 line

3); and

Wilk, however, fails to disclose identifying a subset of diagnoses and using the subset of

diagnoses to reorganize an information space of said image database for concurrent presentation of a

plurality of images for user review via the user-Interface. Bodick et al disclose a computerized aid to the

process of medical diagnosis and teach a diagnostic engine that returns a subset of diagnoses

responsive to characteristics entered by a user (Col. 2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-

57; Col. 12 line 64-Col. 13 line 11; Col. 20, lines 15-38; Col. 24, lines 28-48). Bodick et al further disclose

reorganizing an information space for concurrent presentation of a plurality of images or user review (Col.

2, lines 30-61; Col. 3, lines 25-30; Col. 5, lines 40-48; Col. 6, lines 15-22; Col. 20, lines 15-38). Thus, it

would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the

system of Wilk and incorporate the ability to identify a subset of possible diagnoses based on a sample of

characteristics and further to display the images or other data related to the subset of diagnoses as

taught by Bodick et al. Bodick et al provides motivation by indicating that these features would benefit

doctors or physicians by assisting them in searching information that would help them in diagnosing a

medical condition (Col. 1, lines 10-16; Col. 2, lines 1-8).

Wilk further fails to specifically disclose that the system is used for the investigation of a death.

Bodick et al, however, disclose that it will be apparent that the presentation of pictorial images in

conjunction with textual data which relate to those images and assist in the evaluation of them is valuable

in any area where the appearance of an object under study/examination is of critical importance. Thus, it

would have been obvious to one having ordinary skill in the art at the time of applicant's invention to

modify the system of Wilk and utilize the invention for any purpose including investigating a cause of death as suggested by Bodick et al for the cognitive process of diagnosis.

Conclusion

6. **Examiner's Note**: Examiner has cited particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that the applicant, in preparing the responses, fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

• Lemelson et al disclose a computerized medical diagnostic system wherein clinical data is analyzed according to criteria contained in a knowledgebase in order to make a diagnosis

• Herren et al disclose an integrated disease information system

• Jacobs et al disclose a system for creating and maintaining a medical decision making knowledgebase

• Yamada et al disclose a computer-aided diagnosis system for medical use.

8.   Any inquiry concerning this communication or earlier communications from the examiner should

be directed to John Hayes whose telephone number is (703)306-5447. The examiner can normally be

reached Monday through Friday from 5:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim

Trammell, can be reached on (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be

directed to the receptionist whose telephone number is (703) 308-1113.

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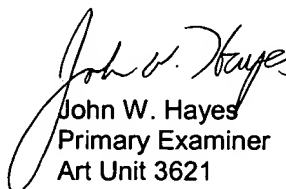
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Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington,
VA, 7[th floor receptionist].

John W. Hayes
Primary Examiner
Art Unit 3621

November 1, 2004